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August 11, 2016

Ms. Dortch
Secretary
Federal Communications Commission
445 12th Street, NW
Washington, DC 20554

Re: Notice of Ex Parte Communication & Discussion with SecuLore Solutions: Discussion Regarding PS Docket No. 15-91 concerning Wireless Emergency Alerts and Community-Initiated Alerting

Dear Ms. Dortch:

On August 9th, 2016, I, Timothy Lorello, President & CEO of SecuLore Solutions, conducted a phone conversation with James Wiley, Attorney Advisor, and Rasoul Safavian, Chief Technologist, both of the Public Safety and Homeland Security Bureau ("PSHSB") of the Federal Communications Commission ("FCC" or "Commission").

Having previously served as Senior Vice President of TeleCommunication Systems ("TCS"), having numerous patents related to text messaging solutions provided within the U.S., and having subject matter expertise with regards to Wireless Emergency Alerts ("WEA") as deployed in the U.S. by companies such as TCS, I provided verbal comments regarding the Commission's current Notice of Proposed Rulemaking ("NPRM") regarding WEA.

The following topics were discussed:

- Increasing the maximum WEA character length
- Classifying Emergency Government Information
- Content, specifically embedded references, in WEA alerts
- Providing Multilingual WEA messages
- WEA geo-targeting

First, a few general comments. Some of the comments provided below will reference existing technology, primarily in the form of Short Message Service ("SMS"). This should not be construed as a recommendation to provide these enhancements in existing technologies. Rather, I recommend that the Commission suggest changes that are in line with the future growth path of messaging technology, particularly in the form of LTE messaging. The references are made to emphasize the technical feasibility of changes. The references are

also meant to suggest that that the FCC should take consideration of existing 3G technologies while offering any future rulemaking, consulting existing messaging standards for ideas on how to proceed and what has already be successfully deployed. In particular, the ANSI IS-41 Standard is an excellent source of information for how the SMS service was expanded and extended in the U.S. for CDMA carriers, addressing extended messaging and multimedia messaging. Given the nature of the changes that the FCC is considering, I would also recommend that the WEA message delivery process be viewed as three distinct parts: 1) Delivery of messages from agencies to the Alert Aggregator; 2) delivery of messages from the Alert Gateway to the CMSP Gateway, and 3) delivery of messages from the CMSP Gateway, through the Radio Access Network ("RAN") to be delivered to the device. Given that the Commission is primarily focusing on the 3rd message delivery process, and given that this part has the greatest technology impact since every mobile phone must comply with future rulemaking, there is a great benefit to giving separate consideration to the 1st and 2nd delivery mechanisms. Primarily, such consideration will increase the benefit of the service (for example, allowing the agency in the 1st delivery mechanism to provide a shorter 90-character version and a longer-message version of the alert would allow a CMSP to deliver a shorter message to 3G infrastructure and the longer message to LTE infrastructure, preserving the full length of the message and reducing complexity at the RAN). In a later ex parte filing, I will give a more complete explanation since we did not have time to go into details on our call.

Regarding increasing the maximum WEA character length, there is both logical and technological support for increasing the message length. Extensive use of abbreviations, required to deliver meaningful detail in a 90-character messages, severely impacts the reader's comprehension of the message. Extending the character length would likely be of great benefit to the message recipient but, as noted by other commenters, must be balanced by refraining from making the message too long. A length of 360 characters seems to strike a happy medium, as noted by ATIS and others. Short Messaging Service ("SMS") in the U.S. went through similar expansion when providing extended messaging service. The Short Message Service Center ("SMSC") divided the message body into multiple parts, delivering independent shorter text messages and allowing the reconstruction of the extended message body in the handset.

Regarding the introduction of a new Emergency Government Information classification, we discussed my concerns that such introduction would complicate the work needed to be done on the handset and potentially encourage end recipients to opt out of messages because such information is likely to be delivered more frequently. However, the value of sending additional information cannot be ignored. Instead, I recommend that the Commission consider the introduction of embedded references that would allow a user to review a previous alert message and go to secondary sources for additional information. Users would do this at their leisure and frequency rather than hoping that an agency can determine the appropriate frequency of such information. In an emergency, users are likely to seek out additional information, something not easily conveyed in a single supplemental alert. Embedded references provide a large and broad set of information that can be conveyed.

Regarding embedded references and also regarding a requirement for multilingual messages, I highly recommend the use of embedded references to provide supplemental information as well as to convey alert information in multiple languages. Providing information in this manner, rather than relying on the main body of alert text, will allow the full length of the message to be used for the primary message (and in English). The embedded references will allow the recipient to more efficiently seek supplemental

information or to receive the primary **and** supplemental information in additional languages. This has the added benefit of being able to support multiple, not just one, non-English language choices. Finally, great concern has been expressed about the need for additional information and that end users in an emergency area are likely to create "milling" effects on a wireless network, causing large traffic spikes as they search somewhat aimlessly for additional information. By embedding data in the primary alert, this can cause a reduction in this milling effect since users will more efficiently find the information that they need and know where to go to get updates when they want or feel that they need them. In addition, information platforms can be built with the express understanding that such traffic spikes can occur. These kinds of traffic spikes might crash other information sites that usually receive light traffic volumes (such as municipal, county or state web sites or certain corporate sites that might have useful information in an emergency but do not scale their platforms for the traffic spikes such emergencies cause).

Finally, with regard to WEA geo-targeting, I believe that improved location granularity is critical to achieving greater usage of WEA alerts. Without good geo-targeting, recipients will receive messages that do not affect them because the recipients are outside of the general area of effect. Given that the Commission is trying to encourage the expanded use of WEA, such an increase in poorly-targeted messages would likely encourage a recipient to disable/opt-out of WEA emergency messages; and this defeats the intent of the rulemaking. Thus, finding ways to improve geo-targeting of WEA messages should be a top priority. While at TCS, I had the privilege of working with engineers who produced the most widely-used precise location engines in the world. Working with many companies in the standards bodies, TCS spearheaded an effort to incorporate geo-fencing into the Secure User Plane for Location international standards. These standards specifically addressed how a handset could receive geo-fencing information from a network server and invoke applications on the handset based upon whether the user was within such a geo-fence and provided notifications when a user entered or left a geo-fence. These functions are in high alignment with what is needed to implement greater granularity of WEA geo-targeting since WEA messages delivered by agencies already have embedded geospatial polygons or codes that represent the targeted area of the emergency. Such standards and expertise would be of great use to the Commission as it looks further into WEA geo-targeting. Given that time did not permit us to discuss this topic on our call, I will provide additional information in a later ex parte filing.

Pursuant to Section 1.1206 of the Commission's rules, 47 C.F.R. § 1.1206, this letter is being electronically filed via ECFS with your office, and a copy of this submission is being provided to the meeting attendees. Please feel free to contact me if you have any questions.

Sincerely,

Timothy James Lorello

cc: James Wiley
Rasoul Safavian